Summary

In this dissertation, I deal with the sociologically relevant theoretical and statistical consequences resulting from the spatial structure of society. I attempt to show how space is present in sociological data and, through this, what role it plays with regard to the methods applied. In the introduction, I demonstrate in theory the potential social effect mechanisms that may create the spatial structures of society while assuming the existence of spatial structure as a fundamental feature.

The particular hypotheses proposed and questions raised in this dissertation primarily concerned the analysis criteria of survey type data i.e. the quantification of spatiality as well as the effects spatiality had on conventional analyses. To explore the relations of a statistical nature, I applied complex simulation methods during which I sought to use real social databases in order to enhance the sociological relevance of the results. As regards concrete statistical analysis methods, I used, *inter alia*, multilevel models (not yet frequently applied in sociology) and the functions recommended for design effect calculations. I discussed and, to some extent, applied a few basic spatial econometric models for analysing ecological data.

By means of simulations, I was able to clearly prove that the spatial structure of society can be detected in the survey data. Through real surveys and by looking at the design effect phenomenon, I conducted in-depth analysis of clusterisation as it emerges at settlement level while demonstrating differences between several parameter estimators. The results clearly confirmed the hypothesis that spatial structure was present in survey data, which may be interpreted as an absence of independence between the observations. As the result of the simulations, I came up with proposals for practical data analysis and I particularly emphasised how important it was to allow for the design effect in the case of estimations made on complex sample designs.

Through using a unique simulation arrangement, I succeeded in demonstrating, on both artificial and real social data, that the bivariate relations present at ecological level may also clearly surface in the survey data. The results have a more far-reaching relevance as their logical extension may reveal the general limitations of the conventional analyses methods applied with respect to the survey data.